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STRATEGY RESEARCH PROJECT

# SYNCHRONIZATION AT THE OPERATIONAL LEVEL

BY

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## ABSTRACT

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A wartime campaign is the synchronization of air, land, sea, space, and special operations - as well as interagency and multinational operations - in harmony with diplomatic, economic, and informational efforts to attain national and multinational objectives. Synchronization in both planning and execution is the acme of great generalship, however, recurring deficiencies at both the tactical and operational levels indicate many of our leaders are unable to effectively synchronize plans and operations. Our generation of senior leaders are the most educated in the history of warfare and yet still struggle with the issues and complexities of synchronizing operations. In spite of modern technology and digitization of the battlefield, commanders still fail to synchronize, orchestrate, and integrate all systems to achieve a desired end-state. This paper examines the doctrinal issues and problems associated with operational synchronization in the planning process. It looks at the tactical level only to the extent necessary to draw operational level conclusions. It then focuses on just two aspects of synchronization; the competency requirements of the commander, and the synchronization process in the planning phase of the tactical decisionmaking process.

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## *Introduction*

> "As dawn broke here over the Mojave Desert, the Army's experimental brigade, a high tech venture modeling the next generation of combat soldiers, was on a dusty roll. Its aerial sensors had revealed the locations of an enemy force. Monitoring the battlefield on computer video displays mounted in their armored vehicles, the soldiers...maneuvered deftly through forbidding wadis, over hilly paths and across a scrub covered plain. Then, suddenly, the attack stalled. A fumbled attempt to breach a line of mines and concertina wire gave the opposing force the opportunity to relocate some antitank systems and stop the 21st century team in its tracks..."[1]

The purpose of this paper is to address problems associated with synchronizing operations at the operational level of war. In spite of modern technology and digitization of the battlefield, our failure to synchronize operations continues to be a major deficiency as evidenced by reports from the Combat Training Centers, the Battle Command Training Program and the Joint Warfighting Center. Our leaders are the most educated in the history of warfare and yet continue to struggle with the issue of synchronizing operations. Many of our leaders lack the technical and tactical competencies necessary to effectively synchronize complex operations. This paper examines Joint and Army doctrine pertaining to synchronization, integration and synergy of operations. This study will examine the problems with synchronizing operations at both the tactical and the operational levels. The tactical level will be examined because it provides a microcosm of the larger issues at the operational level. The focus of this paper will be on the commander's required competency, his involvement in the process, and the process itself. Lastly, it will make recommendations to improve the synchronization process at the operational level.

## *Definition of Synchronization and Military Doctrine*

Synchronization means different things to different people. Therefore, it is useful to review current doctrine. Joint doctrine uses the terms synchronization, synergy, and integration almost interchangeably. Joint Pub 1 states, " The joint campaign plan achieves sequenced and

synchronized employment of all available land, sea, air, special operations, and space forces--orchestrating the employment of these forces in ways that capitalize on the synergistic effect of joint forces.".[2]

Joint Pub 3-0, Operations, states, "A wartime campaign is the synchronization of air, land, sea, space, and special operations-as well as interagency and multinational operations-in harmony with diplomatic, economic, and informational efforts to attain national and multinational objectives...Operational art is characterized by synergy (Integrate and synchronize operations in a manner that applies force from different dimensions to shock, disrupt, and defeat opponents.).".[3]

Synchronization is also one of the tenets of Army operations, "Synchronization is arranging activities in time and space to mass at the decisive point. For example, integrating the activities of intelligence, logistics, and fire support with maneuver leads to synchronized operations. It means that the desired effect is achieved by arranging activities in time and space to gain that effect.".[4] Army operational doctrine, from FM 100-7, defines synchronization as, "...the arrangement of operations and battlefield activities in time, space, resources, and purpose to produce maximum relative combat power at a decisive point...the commander synchronizes major actions within his battle space. The operational level operating systems- movement and maneuver, fires, protection, battle command, intelligence, and combat service support...".[5]

Hence, in the review of Army and Joint doctrine, synchronization implies the integration, orchestration, and arrangement of activities, agencies, forces and systems in a synergistic manner. This must be done at the right time and place in accordance with the will of the commander.

### *The Problem-At The Tactical Level*

This synchronization process is difficult at the tactical level and becomes even more difficult at the operational level. In analyzing the Military Decisionmaking Process a senior trainer at the National Training Center said, " Developing a fully integrated and synchronized plan is difficult under the best of circumstances. The task is even more difficult under combat conditions when time is limited and staff members lack adequate sleep. There are no easy solutions to this problem.".[6] The Combat Training Centers (CTCs) (National Training Center, Combat Maneuver Training Center and the Joint Readiness Training Center) and the Battle Command Training Program (BCTP) provide excellent laboratories to examine the ability of tactical units to conduct synchronized planning and operations. These Centers have a professional cadre of trainers who examine cause and effect relationships in near-combat conditions.

Over the past ten years, one glaring deficiency surfaces over and over in the CTC lessons-learned bulletins. That deficiency is the inability of commanders and their staffs to conduct synchronized planning and execute synchronized operations. Units arrive at the CTCs with well-trained crews who know how to fight their tanks, Bradley Fighting Vehicles, artillery, helicopters and other systems. However, commanders and their staffs are repeatedly unable to synchronize, integrate and orchestrate the myriad systems on the battlefield against a living and thinking opposing force.

Almost every quarterly CTC bulletin, published by the Center for Army Lessons Learned at Fort Leavenworth, cites the problem of synchronization as a major shortcoming. Here are just a sampling of CTC observations about synchronization:

"Wargaming is not focused and does not synchronize the plan...staff writing their annex without fully synchronizing their battlefield operating system...units need to use a synchronization matrix..."[7]

" Fire support officers (FSOs) and Air Liaison Officers (ALOs) are not actively participating in fires synchronization...cavalry squadrons experience difficulties coordinating and synchronizing air/ground operations...products from wargaming are rarely usable, doing little to synchronize the plan (not producing a fully integrated, very detailed execution or synchronization matrix)."[8]

" Field artillery battalion TOCs are not synchronizing assets with the maneuver battle...failure to integrate combat support...artillery delivered FASCAM is not synchronized with the plan...weak synchronization matrix...engineer planners are not consistently integrated with the maneuver task force...support battalion S-2/3 does not effectively synchronize the BSA defense by BOS." [9]

The Battle Command Training Program (BCTP) examines Brigade, Division and Corps level commanders and staffs. The BCTP lessons-learned bulletins repeatedly identify the inability of staffs to integrate and synchronize as a major deficiency. BCTP evaluators/trainers cite problems in integrating air defense, synchronizing combat service support with the scheme of maneuver, synchronizing the movement of artillery with the scheme of maneuver, synchronizing fires and obstacles with the scheme of maneuver, and the list goes on. Synchronizing every battlefield operating system (BOS) with the scheme of maneuver is a repeated deficiency in the BCTP lesson learned bulletins.[10]

At the tactical level, from battalion through corps, synchronization in planning and execution is a glaring deficiency. It should cause some concern that this deficiency is not improving over time. Units continue to struggle with the challenges of synchronization at the training centers and the reports from 1987 look much the same as the reports from 1997.

### *The Problem -At The Operational Level*

The CTCs and BCTP provide an excellent laboratory to identify synchronization deficiencies at the tactical levels of command. What about the operational level of war? Currently, there are no similar laboratories to provide the rigorous examination of warfighting competencies at the operational level as the CTCs do at the tactical level. However, in light of our tactical experience, some deductions can be made about our effectiveness in synchronizing plans and operations at the operational level of war.

First, the same staff officers and commanders who experienced such difficulty in synchronizing planning and operations at the tactical levels, are the ones who later become our operational level planners and commanders. At the tactical levels they dealt with a smaller set of variables that could be called the battlefield operating systems (BOS). As a rule, these BOS were directly under their command and control and were responsive to the tactical commander. At the operational level the set of variables that require synchronization are many times greater and more complex. At this level there are the operating systems (maneuver and movement, fires, force protection, intelligence, battle command and combat service support) which must be synchronized. In addition to these operating systems, the operational joint force commander must synchronize service capabilities (army, navy, air force, marine, and special operations forces), interagency, multinational operations, non-governmental and private organizations, all in harmony with diplomatic, economic and informational elements of power to achieve national and multinational objectives.[11]

As if this were not a monumental task, he must also ensure the synchronization of subordinate (national and multinational) plans with the joint force commander's (JFC) campaign plan. At the tactical level, the commander will almost always have unity of command. At the

operational level, he will strive just to obtain unity of effort. Forces, agencies, coalition partners, and other elements will be less responsive to his will, thus further exacerbating the formidable task of synchronization. Lastly, joint and multinational doctrine is not as detailed and prescriptive as service doctrine. This, along with all the other factors cited, makes for a much more complex and ambiguous environment for the operational commander. He is responsible for synchronizing many more forces, capabilities and agencies with less direct control than the tactical level commander. The commander or planner who had difficulty in synchronizing tactical operations will potentially have much more difficulty in synchronizing at the operational level.

### *Historical Examples of Operational Level Synchronization Problems*

It will be useful to give three short historical vignettes that demonstrate synchronization problems at the operational level. The three vignettes will be Operation HUSKY (the 1943 Allied invasion of Sicily), Operation DESERT SHIELD/STORM, and Operation JOINT ENDEAVOR (NATO Peacekeeping Operation in Bosnia).

### *Operation HUSKY - Invasion of Sicily*

In July 1943, Allied forces launched a massive invasion on the beaches of Sicily. The planning for this operation (Codenamed: Operation HUSKY) had begun in January 1943, at the Casablanca Conference. The ground and naval plans had been closely coordinated, but the air plan had not. Both Patton's U.S. 7th Army and Montgomery's British 8th Army had planned large airborne assaults to precede the beach landings. The joint force commander, General Alexander was not successful in synchronizing the air plan with the naval and ground plan. The air routes from Algeria to the drop zones in Sicily were finalized late in the planning process. The air routes were poorly coordinated with naval convoys and army air defense units. When the

airborne operations were executed on D-Day and D+1, there was great confusion. The allied naval convoys and army air defense units mistook the U.S. and British airborne convoys for enemy air forces and directed devastating anti-aircraft fires upon them. The result of this lack of operational synchronization was the loss of over 35 allied troop transports and the death of over 410 paratroopers to friendly fires.[12] General Eisenhower, who was the Supreme Allied Commander- Mediterranean, attributed this horrible tragedy to inadequate coordination between services. In this historical example, the lack of synchronization in both planning and execution resulted in a monumental disaster and loss of life.

### *Operation DESERT SHIELD/STORM*

Operation DESERT SHIELD/STORM should have been a smoothly planned and coordinated operation. The U.S. Central Command (CENTCOM) had the responsibility for the Southwest Asia area of operations. In fact, they had recently completed a wargame that closely replicated an Iraqi invasion of Kuwait. It could be expected that CENTCOM would have had a well-synchronized plan on the shelf for just such a contingency. In fact, there was no viable plan, and U.S. forces deployed to the Gulf without a campaign plan or a Time-Phased Force Deployment Data List (TPFDDL) to sequence the arrival of forces in theater.[13] Planning synchronization between the services was almost non-existent. General Schwartzkopf and his component commanders had rapidly deployed to the region and had their hands full just trying to manage the deployment of forces. The crisis planning phase was poorly synchronized by the joint force commander (JFC).

The air campaign plan was begun in an office codenamed "Checkmate" on the Air Staff in the Pentagon. In this think-tank cell, Colonel John Warden led a group of air staff planners in developing what was to become the Desert Storm air campaign plan.[14] This plan was developed

in isolation from the ground and naval plans and was given to General Schwartzkopf for refinement and execution.

The ground campaign was planned by a secret group of planners from the U.S.Army School of Advanced Military Studies (SAMS). These planners were nicknamed "Jedi Knights" and were planning independently of General Schwartzkopf's regular planners.[15] These army planners developed the army campaign plan that initially included the marine force ground plan. The marines, however, did not agree with the uncoordinated ground plan, so they developed their own plan which was eventually approved by Schwartzkopf. Hence, each service developed their own independent plans, in relative isolation, with little synchronization at the JFC level.

For Operation DESERT SHIELD/STORM the planning phase was a synchronization nightmare. A post-mortem examination of the TPFDD and deployment is testimony of the poor coordination, synchronization and integration of the planning process. The JFC and his staff did not synchronize the major strokes of the plan, but, rather accepted the subordinate plans developed in isolation from one another. Fortunately, time was available (six months) to work out the major flaws and conduct sufficient rehearsals. In many respects, coalition forces were successful given the amount of preparation time and overwhelming combat power. However, given less planning time and a more formidable adversary the synchronization issues might have been much more significant.

### *Operation JOINT ENDEAVOR*

The last historical example is that of Operation JOINT ENDEAVOR, the U.S. led NATO peacekeeping operation in Bosnia-Herzegovina. In November, 1995, the Dayton Accord was ratified by all parties and President Clinton announced to the world that a NATO peacekeeping force would deploy to Bosnia. The Headquarters, U.S. European Command (EUCOM) had been

planning for such contingencies for the previous two years. Many synchronization issues became evident as soon as the plan was executed.[16]

The reserve mobilization timing of the Presidential Selective Reserve Call-Up (PSRC) had not been synchronized with the concept of operations and the scheme of maneuver. Critical reserve units and individual augmentees were not available to deploy according to the planned timeline. Some reserves arrived into theater 30-60 days later than needed according to the plan.

The operational movement of forces from Germany to Hungary was bottlenecked at the railheads because international transit agreements had not been consummated. The opening of the critical line of communication node at the Sava River was delayed several times. The planned TPFDDL quickly became obsolete and was discarded. The operational and strategic lift allocations between the Air Force and Army became contentious as both services competed to get critical assets into Bosnia. The opening of the key operational airfield at Tuzla, Bosnia, was delayed because it lacked Federal Aviation Administration certification and clearance.

All of these issues could have been identified and resolved had the plans (at all levels) been properly synchronized. In this case, lack of good synchronization in planning led to poor synchronization in execution. Poor synchronization at the operational level was overcome by good leadership and aggressive execution at the tactical levels. However, there was too much friction and hardship that could have been prevented by better planning.

It is clear that synchronization, at the tactical level, is difficult as evidenced by the recurring CTC and BCTP observations. Although there are no equivalent systems to apply the same rigor and scrutiny to operational plans, one might suspect that operational plans are seriously deficient as well. After Action Reviews (AARs) from joint operations and Joint Task Force (JTF) exercises indicate the same type synchronization problems as exist at the tactical levels.

At this point it is important to make a distinction between planning and execution. A well-integrated and synchronized plan will provide for a smooth, synergistic, execution that synchronizes the effects and capabilities of various forces. Said another way, a poorly synchronized plan will most likely lead to poorly synchronized execution. A good example is that of a top quality professional football team playing an equally qualified team. If the teams are near-equal in terms of talent and skill, then the difference in the outcome is usually decided by coaching and preparation. A faulty game plan can be the cause of defeat on the field. Good synchronization requires hard work by competent professionals. Napoleon Bonaparte said, "In war nothing is achieved except by calculation. Everything that is not soundly planned in its details yields no result.".[17] Synchronization in execution is the result of hard work and detailed planning.

### *Illustration From a Different Discipline*

An excellent illustration of the synchronization process can be found in the discipline of music. By examining this process there are some applications that can be transferred to the discipline of war. Before a composer begins writing a symphony, he must have a mental picture of his desired end-state along with an appreciation as to how each part of the orchestra will fit into it. For the great composers this is almost an intuitive process. Clausewitz called this attribute, coup d'oeil, which is the inward eye, or sixth sense, that enables one to see things others do not. It refers to " a quick recognition of a truth that the mind would ordinarily miss or would perceive only after long study and reflection.".[18]

Once the composer visualizes his symphony, he then sets down to synchronize it on paper. His tool for doing the synchronization is the musical score that defines the various parts from beginning to end. He determines the tempo of the score as either andante (slow), allegro

(normal), presto (fast), or prestissimo (very fast). As he writes the musical score he synchronizes and interweaves the various parts for the brass, percussion, strings, horns, and vocal sections. He does not assign the different pieces to his assistants to write in isolation, but he assumes personal responsibility to integrate the pieces himself. In his mind he visualizes how the different parts come together to produce his desired effect.

After he has completed writing the musical score, he would then review it to ensure all parts are synchronized to achieve his end-state. He would then give the draft musical score to a conductor. The musicians would practice individually and then as sections. Then the orchestra as a whole would rehearse under the direction of the conductor. At this point the composer might make some modifications or refinements to the score. These changes would be made to the sheet music. Once satisfied with the harmony of all the parts of the orchestra, he would then give his consent for a public performance.

General George Patton understood this illustration and its relation to warfighting. Patton said, " If the band played a piece first with the piccolo, then with the brass horn, then with the clarinet, and then with the trumpet, there would be a hell of a lot of noise, but no music. To get harmony in the music, each instrument must support the others. To get harmony in battle, each weapon must support the others. Team play wins.".[19] There are many similarities between planning military operations and composing a musical score. Clearly, planning military operations are more difficult, however, both require a clear conceptualization of the desired end-state and active involvement of the leader.

### *Analysis of the Problem*

There are many elements in the Military Decisionmaking Process and overall, it is a good process. Although the process is highly structured and complex, it has stood the test of time.

There is even an abbreviated process which can be used in the often time-constrained environment of combat or such as exists at one of the CTCs or a BCTP Warfighter Exercise. Additionally, our service and joint doctrine clearly emphasize the importance of synchronization, integration and orchestration of the plan and its execution. Everyone understands the importance and necessity for synchronization. One must ask; if our planning doctrine emphasizes the importance of synchronization, integration, and coordination, then what is the problem? Why is synchronization so difficult? Why does it continually appear as a deficiency in both tactical and operational after-action reports? This paper will examine, what I believe are, two fundamental aspects of the synchronization problem. They are the role of the commander and the process itself.

### *The Role of the Commander*

The commander is the central element in the synchronization of plans and operations. A synchronized plan is the primary tool used by a commander to impose his will on the enemy. The military theorist, Carl von Clausewitz stated, "War is nothing but a duel on a larger scale...war is thus an act of compelling the enemy to do our will...force is thus the means of war; to impose our will on the enemy is its object.".[20] How does a commander impose his will on an adversary? Today, he transmits his will through a synchronized plan that is aggressively executed by subordinate commanders who understand the will and intent of the commander. The successful commander is the one who infuses the plan with his personality and intent. The plan as it is developed becomes the expression of his will. Recalling the analogy of the symphony composer, he is intimately involved in drawing the blueprint of the plan and then allowing the staff to work out the technical details.

### *Commander Involvement*

At one time commanders were totally involved in the planning process and their staffs provided the mechanical support necessary to transcribe and transmit orders. Napoleon spent hours every evening, often working over the maps until the early morning hours, planning his operations. He would have never permitted a staff officer to develop his plans for him. Robert E. Lee and Ulysses S. Grant also conducted their own planning and wargaming. In 1864, Grant controlled five armies and his headquarters staff consisted of fourteen officers. [21] During the early 1900's the commander came to rely more upon his staff in the planning of operations. This was due , in part, to the growing complexities of modern warfare. With the advent of motorization and airpower, the planning of operations had taken on a new complexity. Many commanders came to accept a secondary role in the planning process to the general staff officer and in many cases became a figurehead.

J.F.C. Fuller correctly identified the problem of generals who refuse to get involved in the planning process. Fuller asked, "How many generals say to their staffs: Give me all the facts and information and then leave me alone for half an hour, and I will give you my decision. In place, they seek a decision from their staffs...and often feel that the latest arrival from the staff college must know more than they do...How many generals work out their own appreciations, dictate the gist of their orders, or in peace work out their own exercises...Very few!".[22] Fuller goes on to advocate that generals should be tested in exercises without staff assistance. "Normally in a higher command exercise...it is the rule and not the exception for the staff to work out every detail of each problem, while its general, the one man who should be tested, sits aside, often taking [little] interest in the proceedings.".[23] In my view, this lack of involvement is endemic

among our commanders today. The commander should be the teacher of the staff, the one with the most experience who composes, plans and directs operations in a synchronized manner.

Too many commanders, at every level, abrogate their responsibilities in the planning and decision making process. How often have we seen commanders who only make guest appearances during the orders process? They do "touch-and-go" landings at their command posts only to bless the commander's intent and concept that was written by the operations officer. They spout off meaningless generalities such as "I want to attack rapidly to surprise the enemy and knock him off balance!". Their guidance lacks substance and vision. According to the CTC reports, many commanders do not write/develop their own "Commander's Intent" but rely on a less experienced S3 to write it for them. Most intent statements lack clarity and do not adequately describe how the commander sees the battle developing or how he plans to achieve the effects he desires at the time and location he wants. CTCs report that commanders who give incomplete or inadequate guidance respond by saying, "I like to provide my staff maximum latitude in the planning process.".[24] This concept is fine in an environment where time is not a limited resource. Often, staffs spend hours and even days developing and wargaming courses of action (COA) they developed based on inadequate commander's guidance. If the commander cannot visualize and communicate what he wants accomplished (his will) then he cannot expect the staff to develop a synchronized plan to get him there.

### *Competence of Commanders*

An experienced senior brigade trainer from the National Training Center (NTC) observed that after 14 years of training at the NTC we have shown little improvement in our overall ability to fight as a combined arms team.[25] "If the commander's intent is not expressed in terms of effects he wants to achieve...the staff has no basis to build and produce synchronization in the

planning process. And if synchronization is not produced in the planning process, there will be no evidence of it on the battlefield.".[26] This senior trainer after observing 12 brigade rotations at the NTC, concluded that the reason we cannot accomplish our mission is because our battalion and brigade commanders and their staffs lack competence. They do not have the skills and abilities to synchronize and apply the capabilities of their units at the right time and place to achieve success.[27] In other words, they are impotent to impose their will upon the enemy because of their lack of competence. Commanders who cannot visualize the battle space will be unable to synchronize, plan and execute successful operations. This is a harsh condemnation on our officer corps and leadership.

The CTCs and BCTP reports clearly tell us that commanders and their staffs are unable to visualize the battlefield. They lack knowledge on the capabilities of their fighting and support systems, rates of movement (under varying conditions), how far they can see and shoot, effects of terrain and weather on our capabilities. The same lack of knowledge applies to the enemy capabilities. In many units only the intelligence officer knows the enemy. The commander and operations officer must know the enemy as well as the intelligence officer.

At the operational level, the lack of knowledge is magnified. At this level, those same players who lacked knowledge at the tactical level, now have to synchronize the effects of multiservice and multinational systems. Instead of just dealing with tanks, Bradleys, artillery and Apaches, he must now integrate carrier battle groups, marine expeditionary forces, army corps, special operations forces, operational and strategic air forces, information warfare, coalition forces and countless other variables. The commander must understand the operational reach of his forces both individually and synergistically. Operational reach is the distance over which military power can be concentrated and employed decisively and is influenced by

geography.[28] Given the dismal tactical reports from the CTCs over the past ten years, we should not expect that synchronization at the operational level is any better...potentially, it may be much worse.

The commander must be the expert. He must be tactically and technically competent. He must be the teacher who trains his staff in the decision making process. He must be involved in the process and able to clearly communicate his intent, will and purpose for each phase of the operation. He cannot assume that younger staff officers (many fresh out of the advance course or staff college) possess the necessary knowledge and competencies to synchronize their battlefield operating systems with all of the other systems. The commander must be a hands-on trainer of the staff. Few commanders at any level are able to do these things. Few commanders have had the necessary experience and study to be able to master the art and science of warfighting. Commanders want to do well, but wanting is not enough. A commander at any level should be expected to be fully competent, technically and tactically, in his profession.

### *The Synchronization Process*

The commander and staff must have a process for achieving synchronization in the plan. An unsynchronized plan will usually result in unsynchronized execution. Gone are the old days when a commander could do all this in his head. Count Yorck von Wartenburg said, "Clearly the increase in the size of modern armies and the complicated development of military science has made it almost impossible for the commander to keep everything in his hands the way Napoleon did.".[29] The process of wargaming a course of action is the key to achieving success on the battlefield. Few commanders and staffs at any level know how to properly wargame a course of action. At the NTC this inability to wargame is a key reason for the failure of units to effectively synchronize combined arms operations and win battles.[30]

Although joint publications and joint doctrine makes abundant reference to the importance of synchronization, integration, and synergy, at the operational level, there is little if any guidance on how to do it. Joint Pub 5-00.1 (Second Draft) contains the joint tactics, techniques and procedures for campaign planning. One might expect that this publication would describe a process to achieve operational synchronization in planning. It does not. It is a good reference for campaign planning. It does describe key components and factors in the planning process, but, it does not provide for a synchronization process. Another non-doctrinal publication, Armed Forces Staff College Pub 1, The Joint Staff Officer's Guide (the Purple Book) is the base reference used to train joint service majors and lieutenant colonels in Joint Professional Military Education (JPME) Level II. This publication also covers the joint operational planning process, but, fails to provide for a means of synchronizing the wargaming process. In sum, there is no joint publication that provides the "nuts and bolts" how-to guide for synchronizing joint operations.

The synchronization of joint operations requires both a tool and a process. A sample tool (an Operational/Joint Synchronization Matrix) is located at Appendix A. This particular matrix was developed for a notional North African scenario. What follows is a means to use this tool to effectively synchronize joint plans and operations. This process requires a competent commander, who is able to visualize the operational battle space, and a well-trained staff.

This process of synchronization, at the operational level, must be accomplished either prior to, or coincident with, the writing of the plan. This may sound obvious, however, in many cases a staff will write an uncoordinated plan, publish it, and then attempt to synchronize it later through map exercises, "rock drills", rehearsals, and briefbacks. This process also requires the active involvement and participation of the entire battle staff and sometimes that of subordinate

staff members and commanders. It is a huge mistake to allow each staff directorate to run off into their own areas and develop their plans and annexes in isolation. The end result is usually an unsynchronized and uncoordinated plan that results in unsynchronized execution. Often, the phases in the various annexes will not even match those in the J3's concept of operations. A good synchronization process during the planning stage will pay big dividends later. Too often, the synchronization matrix is developed after the plan is written and published as a "check-the-block" requirement when in fact, it should be the blueprint for the written plan. You cannot synchronize a plan after it is written! For Operation JOINT ENDEAVOR, the U.S. European Command plan was over 700 pages long and had not been synchronized in the development phase of the plan. The synchronization matrix for this plan was developed after the plan was written and just prior to publication.[31] Consequently, it turned out to be more of a schedule of major events and activities than a true synchronization tool. The synchronization matrix should be the result of an integrated, participatory, staff planning process that occurs during the development of the plan.

The operations officer should develop a shell (outline) matrix that has all the items on it that are of interest and useful for the commander. There is a tendency to put too much on the matrix. At the operational level, the matrix should capture the bold, operational strokes of the plan. There is a tendency to sink down into the tactical level where people are more comfortable. This tendency should be avoided. The planning team should start with the minimum essential framework and add factors/events only when the results of the wargaming process dictate. Subordinate level, component plans will address and synchronize the tactical issues. Once the commander has decided upon a course of action (COA) the operations officer should put each phase on the matrix showing the start and end of each phase along with the end state and

objectives of the phase. A sketch or "cartoon" of the phase is useful to help people visualize the phase. In some cases the end of one phase may overlap with the beginning of another...that is okay. Once the matrix is framed with the phases of the campaign it is time to assemble the battle staff or operational planning group (OPG). This is when the wargaming and synchronization process really begins.

When the OPG is assembled, the commander should brief them on each phase of the operation, explaining his intent, vision and end-state for each phase. This briefing is essential as it communicates the commander's intent, by phase, to all of the staff. It also establishes, for the staff, a situational awareness for the entire operation. During this brief, the activities, directives and constraints of the higher headquarters should be briefed. For a warfighting commander-in-chief (CINC), this could include the National Command Authority (NCA), the United Nations, NATO or some other organization. These higher commands should be shown at the top of the matrix to help everyone understand key and essential guidance and directives over the course of the campaign (higher's intent).

Next, the intelligence officer (J2) will describe enemy capabilities by phase. This should include what the enemy is capable of doing to friendly forces and what he is likely to do, by phase. For example, if the enemy is capable of using missiles or aircraft to chemically contaminate a key air or sea port of embarkation, then that should be addressed. At this point in the process, the staff should be given the opportunity to question the commander or J2 on any areas that are unclear.

By the end of this phase in the process, the staff MUST understand the commander's intent and concept for each phase of the operation. Once satisfied that the staff understands his intent and the enemy's capabilities, the commander can release the staff with the matrix shell to analyze

and develop their portions of the matrix. Depending on time available this could take hours, days, or weeks. In crisis action planning at the CINC level, the staff could expect perhaps 4-8 hours to complete their respective parts of the matrix. The CINC may want to have some of his subordinate commanders or their staffs represented in this process. Usually, he would want his special operations commander involved. By getting the subordinate staffs involved early in the process it assists them in conducting parallel planning, especially if time is short.

After the staff has had the time to study and develop their respective portions of the synchronization matrix they will reassemble to actually synchronize the plan. This meeting could be led by the commander, his chief of staff, or even the operations officer (J3) or plans officer (J5). Campaign plans and subordinate plans synchronize the six joint operational functions of; movement and maneuver, firepower, protection, command and control, intelligence, and support.[32] During training and exercises it is good to have the commander lead these staff drills as it helps the commander learn how to articulate his intent and train the staff. Also, if the commander leads this meeting then all the primary/principal players will likely be in attendance. The purpose of this meeting is for the OPG to actually synchronize and integrate the plan as a group. The synergistic payoff of this process is invaluable.

The tool used to guide this process is the synch matrix and it can be used in hard-paper copy or electronically. The sample matrix at Annex A was built using Microsoft Excel software. Each member of the OPG could convene in the plans cell with a computer (desktop or laptop) with the matrix on a shared file enabling each OPG planner to input real-time changes and updates to the matrix. The matrix could also be electronically projected on a large screen during the planning process. With current distributive collaborative planning (DCP) tools, planners from remote locations could interactively plan with the assembled OPG.

Once again, the commander reviews each phase of the campaign plan articulating his intent by phase. Then, starting with the first phase, the operations or plans officer (J3/J5) will discuss the phase using a visual aid (concept sketches work well). He will discuss the objectives, tasks, measures of success, end-states, and constraints of the phase. The J2 will follow with an intelligence assessment for that particular phase...what can the enemy do and what is he likely to do? The J2 will cover all dimensions in this assessment (ground, air, space, sea, and informational). Next, each member of the OPG will brief his operating system of that phase. The emphasis must be kept on broad operational strokes and out of the tactical weeds. Subordinate plans will fill in the tactical level of detail. Each other OPG member closely examines the briefing, ensuring there are no disconnects with other operating systems and identifying linkages and sequencing issues.

After the J2 intelligence assessment, the J3 or J5 will brief the operational scheme of movement and maneuver (air, land, sea, space and informational). This is followed by an integrational discussion from each operational-level, functional proponent (firepower, protection, battle command, intelligence, and support). Every member of the OPG is encouraged and expected to identify disconnects during the discussions of each operational level function; for this is where and when the synchronization of the plan occurs. All identified disconnects are resolved before proceeding to the next phase. Other key players in the OPG may be the Director of Reserve Affairs, the Political Advisor (POLAD), chaplain, surgeon and key liaison officers from U.S. Transportation Command (TRANSCOM) and supporting CINCs such as U.S. Atlantic Command (ACOM). Once the first phase is fully synchronized and integrated, the process begins again with the second phase and continues through each phase until all phases have been completed.

During the course of this synch drill, the battle staff/OPG strives to synchronize and integrate the broad operational strokes of the operation. Everyone is alert to the proper sequencing of events and activities. Examples of broad operational stokes are:

1) Timing of the Presidential Selective Reserve Call-Up or Partial/Full mobilization, issuance of demarche, UN Resolutions, embargo activation.

2) Transit and basing agreements coordinated and in place.

3) Deployment sequencing for major forces and enablers and determination of C-Day.

4) Set up of strategic and operational supply depots and logistical bases. Beginning and end points for Reception, Staging, Onward Movement, and Integration (RSOI).

5) Force protection measures and air defense/Theater Missile Defense for critical nodes (airfields, ports and assembly areas).

6) Determination of D-Day and H-Hour.

7) Achieving air superiority or air supremacy by a certain date or event. Selection of phase transition points/events

8) Identification of centers of gravity, decisive points, and operational reach.

There are many other operational strokes that are identified and synchronized in this process. If the broad operational strokes are laid out correctly, then the subordinate commanders can effectively lay in the synchronized tactical strokes necessary to complete the planning process.

Key strategic and operational decision points are also identified in the synch process and placed on the matrix. These decision points show an important activity, event, or decision that MUST happen before another event can happen. For instance, if air superiority is not achieved by a certain date, over a particular area, then the ground offensive may be at risk. This process also lends itself to identifying and building branches and sequels to the base plan.

## *Conclusion*

Synchronizing the operational level functions (battlefield operating systems at the tactical level) is the essence of campaign planning.[33] It is also one of the most difficult things to do. Both military history and our present day laboratories (CTCs, BCTP and Joint Warfighting Center) clearly show this to be a major deficiency that is not getting better over time. This paper identifies and discusses two of the major contributing causes of the synchronization difficulties; the role and competency requirements of the commander, and the synchronization process itself. There is nothing more important for success on the modern battlefield than the ability of units, at the tactical and operational level, to plan and fight synchronized, orchestrated, and integrated battles, operations and campaigns. Our small units of all services are trained, competent and ready. However, without senior leaders proficient at synchronizing and orchestrating their activities, we will not attain the synergy needed to win the next fight.

The services need senior leaders who have had the time and experience in the operational jobs to gain the necessary levels of tactical and technical competence. Warriors need to spend more time in positions with troops to develop that inward, intuitive sense that Clausewitz called coup d'oeil. Commanders must be trained and developed to be able to "see the battle space". They must get personally involved in the decision making process and in the training of their staffs.

The synchronization process need to be codified in doctrine and practice. Joint Pub 5-00.1, Joint Tactics, Techniques, and Procedures for Campaign Planning, and AFSC Pub 1, The Joint Staff Officer's Guide, would be a suitable place for it. This process should be taught in the staff college, war college, and all Joint Professional Military Education (JPME) levels. The National Defense University or the Joint Warfighting Center should develop user-friendly, tailored

software for building an operational synchronization matrix. Different sets could be built for combat operations, peackeeping, peace enforcement, disaster assistance, humanitarian assistance and other types of operations. The software technology currently exists to link and hook events on a matrix and show cause and effect relationships.

There are no excuses for our current complacency with our low level of proficiency in synchronizing operations. Ten years of Combat Training Center and BCTP lessons-learned, focusing on our inability to synchronize operations, are testimony to the fact that we can do better and we must do better. Lives and mission success depend on it. The simulated casualty figures at the CTCs are horrendous and inexcusable. Friendly forces often complete a mission with 70-80% casualties and consider it a success! Most of these casualties are the result of commanders who cannot properly synchronize operations.[34] Now is the time to act. The recommendations in this paper are a first step toward solving the synchronization problem at both the tactical and operational level.

## APPENDIX A: SAMPLE OPERATIONAL SYNCHRONIZATION MATRIX

This appendix consists of a 3 X 5 page (fifteen page) synchronization matrix. The matrix was produced using Microsoft Excel software. The 15 page matrix is assembled from top-to-bottom and left- to- right, using the following diagram:

| | | | | |
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| 1 | 4 | 7 | 10 | 13 |
| 2 | 5 | 8 | 11 | 14 |
| 3 | 6 | 9 | 12 | 15 |

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|---|---|---|---|---|---|---|---|
| **Decision Points** | MISSION<br>On Order, multi-national forces deploy to Area of Operation (AOR) to expel Libyan forces from Tunisia, halt Libyan actions in interantional waters, destroyed Libyan WMD capabilites and force Libyan compliance of UN resolutions.<br>WORKING DRAFT 27 | | CJCS Issues ACTORD | Assess situation in Tunisia and consider Branches | •Phase I: Initiate mobilization & deployment, stabilize situation in Tunisia<br>•Timing: C-Day to C+75<br>•Control of SLOCs<br>•Air superiority in Tunisia<br>•Mobilization<br>•Deployment<br>•Initiate quarantine<br>•Initiate info warfare<br>•Initiate SOF Missions<br>•Commit MEF ashore in Tunisia<br>•Deploy 18th Abn Corps<br>•Security of Aswan Region | | 46 |
| **Phase of Operation** | **Phase O: Predeployment and prep** | | | **Phase I: Mob, Deploy, and Stabilize Tunisia** | | | |
| **Calendar Date** | | | | | | | |
| **G/C/D - Day** | C-30 | C-20 | C-10 | C-Day | C+10 | C+15 | C+20 |
| **United Nations Tasks** | | | Pass UN resolution and establish clear mandate | | | Halt Libyan hostile actions in international waters | |
| **NCA** | | Seek Congressional support and declaration of war | President initiates PSRC . U.S. seeks resolution to quarantine Libya. | | | | |
| **CJCS** | | | Issue EXORD, ROE approved | | | | |
| **USEUCOM** | Identify Reserve augmentation package | Coord transit, SOFA agreements, overflight, and basing | Issue ALERTORD and DEPORD, CAT begins SITREPS | EUCOM Hqs arrives in theater | | | |
| **Army Forces** | | | | | | | |
| **XVIII ABN Corps** | | | Prep and POM | C+3 Ranger Regt, AVN Regt, C+5 AVN Bde | 1 BDE, 82d ABN | | 3d Inf (Mech) Div |
| **V Corps** | | | Prep and POM | | | | |
| **French Corps** | | | | | | | |
| **British** | | | | | | | |
| **Other ground forces** | | | | 4 Egyptian DIV, 2 Nig DIV, 3 Tun BDES, 3 Moroc BDE | | | |
| **Air Forces** | | | | | | | |
| **U.S.** | | | Negotiate basing agreements and overflight rights | B-2 Sqd, C+3: 5 FS, B-52 Sqd, B1 Sqd, 2 Air Wings, SOF Wing | C+5: 9 FS, C+8: 4 FS, C+10 9 FS | | |
| **British** | | | | | C+8 1 Fighter wing | | |

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|---|---|---|---|---|---|---|---|
| **French** | | | | | | | |
| **Other** | | | | Egypt 4 Fight Wings, Tun 2 FS, Nigeria 2 FS, Morocco 3 FS | Ital Fighter Wing | Spanish Fighter Sqd (2) | |
| **Naval Forces** | | | | | | | |
| **U.S** | | | | CVBG Eisenhower, ARG/MEU, C+3 CVBG Lincoln | C+8 CVBG Stennis, ARG/MEU | | |
| **British** | | | | CVVBG | | | |
| **French** | | | | | C+8 CVVBG | | |
| **Other** | | | | Italy CVVBG | Spain CVVBG | | |
| **Marine Forces** | | | | ARG "A", MPS 1&2, ARG "B" & "C" | II MEF | | |
| **Special Ops Forces** | | | | C+3 Ranger Regt, C+8 3d SF Group, 193d SOW, 352d SOG | NWSTG | 16th SOW, 4th POG | 5th SF Group |
| **Operational Maneuver** | | | | Action to secure Aswan Dam region | **MAIN EFFORT: MEF (-) initiates hasty defense of Tunisia** | NAVEUR controls SLOCs and initiates quarantine | |
| **Strategic Fires** | | | | | | | |
| **Operational Fires** | | | | Achieve limited air superiority in Tunisia | Naval Air, Marine Air and USAF strike and attrit attacking NAR forces | | |
| **Information Warfare** | | | Info warfare plan approved by CJCS | | | | |
| **Force Protection** | | | | MARFOR secures port | | | |
| | | | | | | | |
| **Reserve** | | | | | | 82d ABN DIV (-) | |
| **J1 - Personnel** | | | Postal procedures initiated | | | | |
| **J2 - Intelligence** | NIST to COMMZ | 2 NAR Mech and AR BDES cross Tunisian border | 4 additional NAR Divisions move toward Tunisia | PSYOPS, JSTARS | 2 JSTARS | | NIST to AR Divsion |

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| **J3 - Opns & PSYOPS** | | PSYOP analysis and product development | CI command info products completed | | | | |
| **J4 - Log/Sustain/Med** | | NCA decision on fuel payment | Agreements for Medical facility support in AOR | | | | |
| **J5 - Branches/Sequels** | | | | | | | |
| **J6 - Communications** | | | Signal BDE deploys to set up Theater Comm | | | | |
| **Reserve Affairs** | | | Reserve mobilization begins | | | Initial reserve units begin deployment IAW TPFDDL | |
| **Legal** | | | NCA authority to obligate funds, ROE approved | | | | |
| **Public Affairs** | | | JIB Deploys advance party | Public Affairs News Conference | | | |

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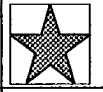
| | | | | | |  | |
| | | | | | | Sufficient Army forces to take over defense mission? | |
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| C+25 | C+30 | C+35 | C+40 | C+45 | C+50 | C+55 | C+60 |
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| | | MP BDE | | AVN BDE | | | |
| Artillery BDE | Air Def BDE | Engineer BDE | 101st ASSLT Div | | | MP BDE, COSCOM | Assume Defense mission from MEF |
| 1 Armor Div, 1 AVN Bde | | Artillery BDE | | Air Def BDE | | | 2 FA BDE, |
| Para Div | Mar Div, Airmob Div | | | Lt Ar Div | | | |
| | | Ar Div | | | | | |
| | | Italian BDE | | | | Spanish CAV BDE | |
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| | | | | | | Turnover Defense to AREUR | |
| | | SF Group | | | | | |
| | Quarantine in effect | | | | | | XVIII ABN Corps assumes Defense mission from MEF |
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| | | | | | | | MEF becomes Theater reserve |
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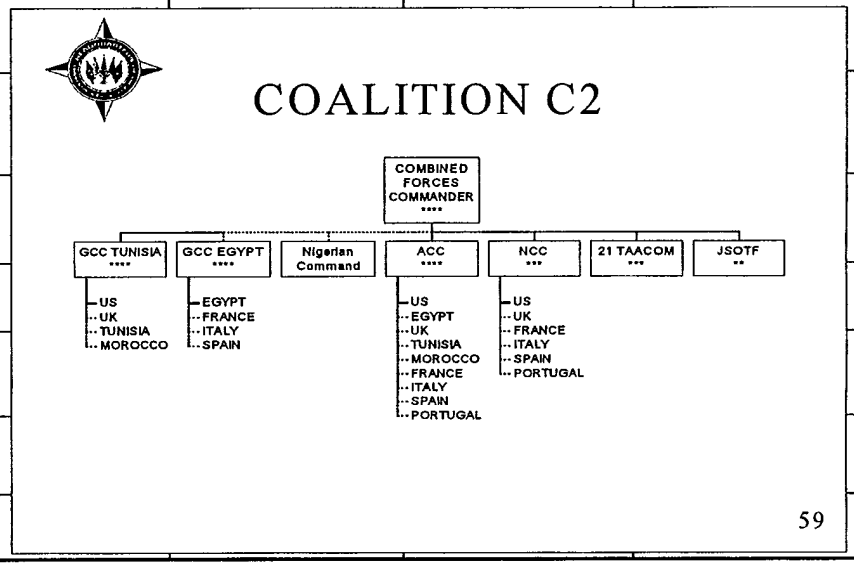
| NAR completes Tunisian operation | | | | | | | |


COALITION C2
COMBINED FORCES COMMANDER ****
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GCC EGYPT ****
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SPAIN
Nigerian Command
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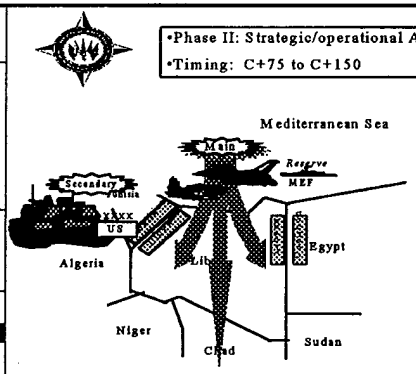
| | | | |  | | |
| | | **Phase II: Air & Naval Campaign** | | | | | |
| C+65 | C+70 | C+75 | C+80 | C+85 | C+90 | C+95 | C+100 |
| | | Destroy Libyan NBC and WMD capability | | | | | |
| | | Strategic target list approved | | | | | |
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| ENG BDE | | | | | | | |
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| Eng BDE | 1st Cav Div | | ACR | | 1 Div | | V Corps |
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| | | Insert SOF to ID and destroy WMD and terrorist camps . | | | | | |
| | | Begin Phase II: MAIN EFFORT: Air and Naval Campaign to shape battlefield | | | | | |
| | | Libyan C2, IADS, WMD sites, Terrorist camps, | | | | | |
| | | Strengthen defense of Tunisia | | | | | |
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| | | MEF afloat | | | | | |
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| NIST to Cav DIV | | | | NIST to DIV | | NIST to V Corps | |

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| | | | Deployment complete? | | | Were Phase II OBJs achieved? | |
| | | | | | | | **Phase III: Counter-Attack** |
| C+105 | C+110 | C+115 | C+120 | C+125 | C+130 | C+140 | G-Day |
| | | | | | | | Expel Libyan forces from Tunisia |
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| | | | COSCOM, 1 DIV | | | | |

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| | | | | | | All ground combat forces are in position and ready for offensive action | Feint by Egyptian front to fix Libyan NE Corps |
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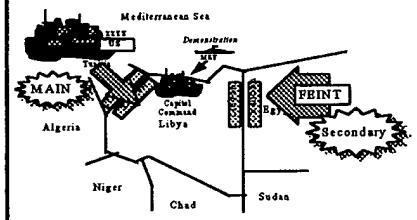
•Phase III: Counter-attack
•Timing: C+150 to C+180




- •MEF amphib demonstration and Egyptian front deception
- •Operational airstrikes to destroy Capitol Command
- •Attrit NAR units at FLOT
- •WMD threat eliminated
- •US Army attack --- main effort
- •Air strikes to attrit other NAR heavy divisions
- •Endstate: Restore Tunisian border and destruction of Capitol Command

51

Compliance with all UN resolutions?

**Phase IV: Negotiated Peace and Redeploy**

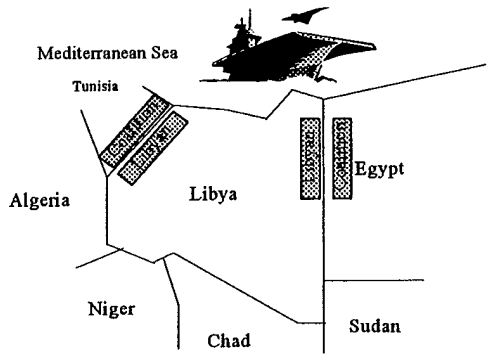
| G+5 | G+10 | G+15 | G+20 | G+25 | G+30 | G+35 | G+40 |
|---|---|---|---|---|---|---|---|
| | | Destroy modern military weapons | | Eliminate Libyan ability to coerce neighbors | | | |

# STRATEGIC END STATE

- Eliminate Libyan offensive Military capabilities
- Leave essential commercial infrastructure and governing agencies in place
- Libya in compliance with UN resolutions
- Tunisian Sovereignty restored

30

•Phase IV: Negotiated Peace and Redeployment
•Timing: C+ 180 --->




- •Confirm UN and US objectives achieved
- •Negotiate settlements
- •Stay behind Force--- inspect and destroy WMD and terrorist sites

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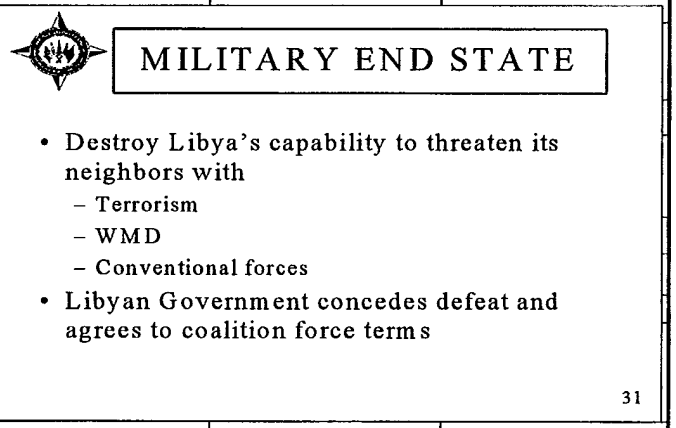


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| | MEF Demonstration of amphib assault | | | | | | |
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| | Focus on Capitol Command | MAIN EFFORT: 7th Army counterattack to repel/destroy NAR forces in Tunisia | | Air strikes to destroy other Libyan heavy divisions | | | |
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# Endnotes

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[22] Ibid, 297.
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[24] Combat Training Center Bulletin No. 95-4, (Center for Army Lessons Learned, Fort Leavenworth, KS: Mar 95), 12.
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[27] Ibid, I-2.
[28] Joint Pub 3-0, III-16.
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[32] Joint Pub 5.00-1 (second draft), V-5 to V-14.
[33] Ibid, V-5.
[34] The author has used these techniques and processes at the National Training Center, Combat Maneuver Training Center and in combat during Operation Desert Storm with great success. As a battalion commander of a regular infantry battalion, the author fought a defensive mission at CMTC and completely destroyed a reinforced motorized rifle battalion with a loss of only two infantry squads, two TOWs (anti-tank missile systems) and one Stinger (anti-aircraft missile system). At end of mission the mechanized opposing force had lost over 95% of its combat power and the dismounted friendly infantry battalion had lost less than 3% of its combat power.

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